

Customer No.: 31561
Docket No.: 12619-US-452
Application No.: 10/707,109

REMARKS

This is a full and timely response to the outstanding Final Office Action mailed December, 29, 2006. Applicants submit that claims 1-11, 15-16, 18, 23-24, 26 are canceled; claims 12, 17, 19, 21, 25, 27, 29 are amended, and claims 32-36 are newly added. New claims 12-20 relate to "a wound type power generating element", which are fully supported by original claims 1 and 2. The amendment of claim 12 can be fully supported by paragraph [0034] and fig 1 of this application. The paragraph [0034] of specification discloses "In ultra sonic wave welding, the aluminum ... foil portion lying on only one half side, with respect to from the center of winding to the outermost periphery, is lapped and then connected to one surface of the positive lead ..." and the aforementioned description shows the condition of Reference figure illustrated in this response. Accordingly, the feature of "a lead is connected to said positive electrode with said positive electrode lapped integrally at a portion, wherein said portion is an end portion of said positive electrode with respect to a direction of an imaginary winding axis." can be achieved. Therefore, the aforementioned amendments of claim 12 will not result in any new matter. For the same reasons, the amendments of claims 21, 29, 32 also will not result in any new matter.

The newly added claims 33-34 are fully supported by paragraph [0034] and fig 1 of this application, therefore the aforementioned amendments of claims 33-34 will not result in any new matter.

The other amendment of claims and newly added claims also will not result in any new matter.

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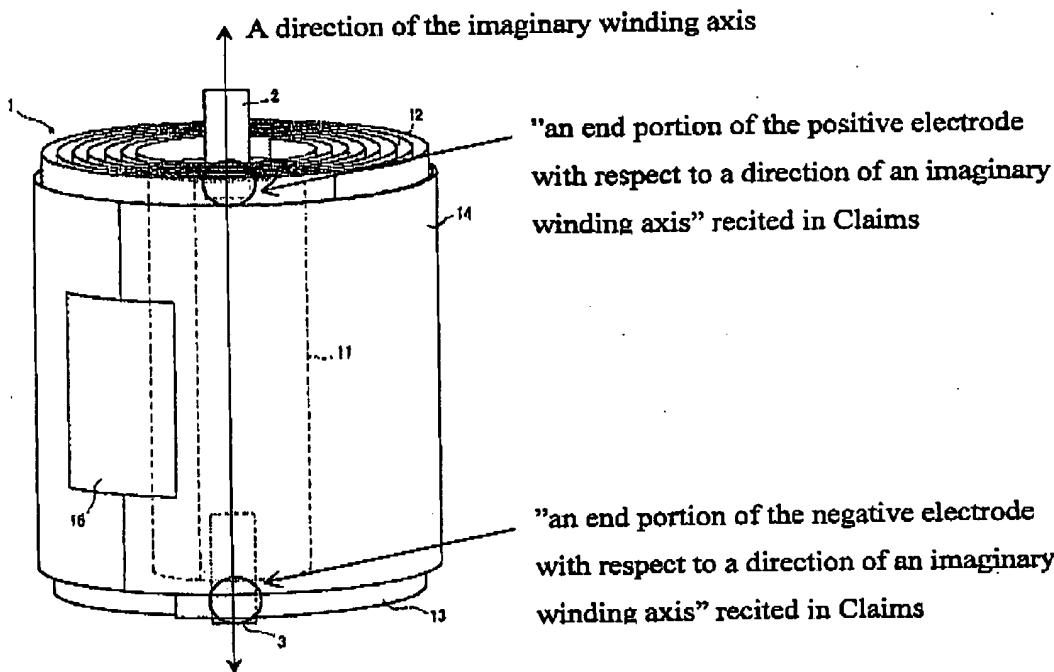
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Features of this invention

The features of this application include "the end points of electrodes are respectively lapped integrally, and then the end points are connected to the lead respectively". About the aforementioned end points, please see the circle-marked portion of the Reference figure A as derived from fig 1 of this application. The condition of the end point connecting to the lead may refer to the Reference figure B.

Reference figure

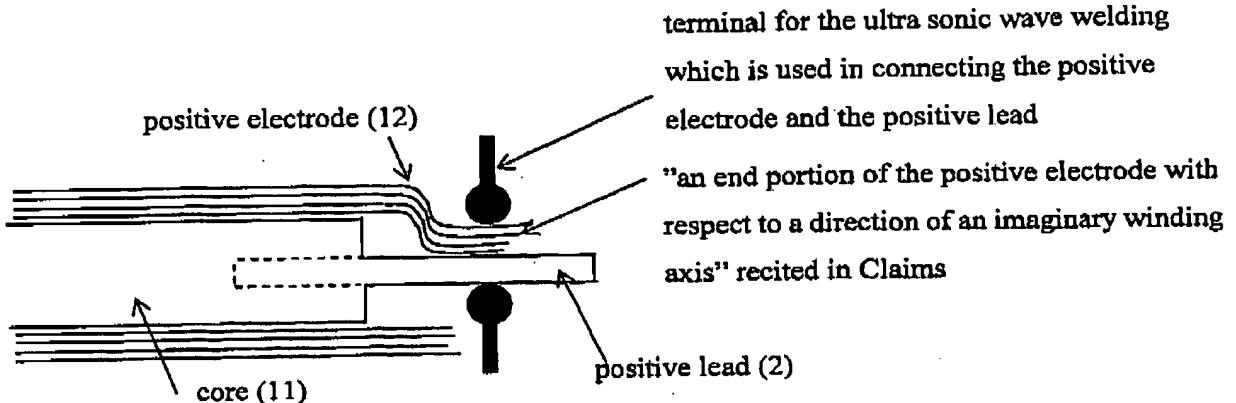
Reference figure A



Reference figure B

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The figure B is a cross section figure in cutting the power generating element of figure A along the imaginary winding axis and along the plane perpendicular to the this paper plane.

Discussion of Claims Rejections under 35 USC §112

Claims 15-16, 18, 24 and 26 are canceled, therefore the Claims rejections of those claims should be withdrawn.

Because claim 19 as the base claim of claim 20 is amended to depend on claim 17, the definition of "omitted structural cooperative relationships" becomes clear. Therefore the Claims rejections of claim 20 should be withdrawn. For the same reason, the Claims rejections of claim 28 should be withdrawn.

Discussion of Claims Rejections under 35 USC §102**About the Claim rejection of claim 29**

The Office Action rejected claim 29 under 35 U.S.C. 102(e) as being anticipated by Ishida et al. (U.S. 2003/013190 A1).

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In response to the rejection to claim 29 under 35 U.S.C. 102(e) as being anticipated by Ishida, Applicants have amended claim 29 and hereby otherwise traverses this rejection. Because Ishida fails to disclose, teach or suggest "said method comprises the steps of connecting said negative lead to said negative electrode with said negative electrode lapped integrally at a portion, said portion being an end portion of said negative electrode with respect to a direction of an imaginary winding axis" which is one of the elements as set forth in claim 29. Accordingly, claim 29 as currently amended should not be considered as being anticipated by Ishida or any of the other cited references, taken alone or in combination, and should be allowable.

About the Claim rejection of claims 12-18, 21-26, 30 and 31

The Office Action rejected claims 12-18, 21-26, 30 and 31 under 35 U.S.C. 102(b) as being anticipated by Ikeda et al. (U.S. Pat. 4,604,433).

In response to the rejection to claims 12-18, 21-26, 30 and 31 under 35 U.S.C. 102(b) as being anticipated by Ikeda, Applicants have amended independent claims 12 and 21 and hereby otherwise traverses this rejection. Because Ikeda fails to disclose, teach or suggest "the lead is connected to said positive electrode or said negative electrode with said positive electrode or said negative electrode respectively lapped integrally at a portion, said portion being an end portion of said positive electrode or said negative electrode respectively with respect to a direction of an imaginary winding axis." which is one of the elements as set forth in claims 12 and 21. Accordingly, claims 12 and 21 as currently amended should not be considered as being anticipated by Ikeda or any of the other cited references, taken alone or in combination, and should be allowable.

If independent claims 12 and 21 are allowable over the prior art of record, then

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their respectively dependent claims 13-18, 22-26, 30-31 are allowable as a matter of law, because these dependent claims contain all features of their respective independent claims 12 and 21. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

About the Claim rejection of claims 12, 13 15-18

The Office Action rejected claims 12, 13, 15-18 under 35 U.S.C. 102(e) as being anticipated by Romero (U.S. Pat. 6,730,431 B2).

In response to the rejection to claims 12, 13, 15-18 under 35 U.S.C. 102(e) as being anticipated by Romero, Applicants have amended independent claims 12 and hereby otherwise traverses this rejection. Because Romero fails to disclose, teach or suggest "the lead is connected to said positive electrode or said negative electrode with said positive electrode or said negative electrode respectively lapped integrally at a portion, said portion being an end portion of said positive electrode or said negative electrode respectively with respect to a direction of an imaginary winding axis." which is one of the elements as set forth in claim 12. Accordingly, claim 12 as currently amended should not be considered as being anticipated by Romero or any of the other cited references, taken alone or in combination, and should be allowable.

If independent claim 12 is allowable over the prior art of record, then their respectively dependent claims 13, 15-18 are allowable as a matter of law, because these dependent claims contain all features of their respective independent claim.

Discussion of Claims Rejections under 35 USC §103

About the nonobvious of claims 12, 21, 29 and 32 (Compare to the citations)

The Office Action rejected claims 19, 20, 27 and 28 under 35 U.S.C. 103(a) as

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being unpatentable over Ikeda et al. (U.S. Pat. 4,604,433) in view of Tamaki et al. (U.S. Pat. 5,418,083).

In response to the rejection to claims 19, 20, 27 and 28 under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. (U.S. Pat. 4,604,433) in view of Tamaki et al. (U.S. Pat. 5,418,083), applicant submits that Ishida et al, Romero, Ikeda et al and Tamaki et al fail to disclose, teach or suggest "the lead is connected to said positive electrode or said negative electrode with said positive electrode or said negative electrode respectively lapped integrally at a portion, said portion being an end portion of said positive electrode or said negative electrode respectively with respect to a direction of an imaginary winding axis.". Therefore, claims 12, 21, 29 and 32 are submitted as novel, unobvious over Ishida et al. (U.S. 2003/013190 A1), Ikeda et al. (U.S. Pat. 4,604,433), Romero (U.S. Pat. 6,730,431 B2), Tamaki et al. (U.S. Pat. 5,418,083) or any of the other cited references, taken alone or in combination, and thus should be allowable.

About the nonobvious of claims 29 and 32 relate to the making method

Next, claims 29 and 32 have the following outstanding effects. The electrode and lead disclosed in claim 29 and 32 of this application are different materials. Please refer to FIG 1 of this application, the electrodes (12, 13) and the leads (2, 3) are different materials. However, the process for connecting the electrode and lead has following problems. (i) It is difficult to make all the connection positions of electrode and lead the same in the mass production of cell, (ii) when the electrode and lead is connected by ultra sonic wave welding, the position of lead is shifted by the slight vibration when the ultra sonic wave is being applied, so that the electrode and the lead are connected at the shift condition (please refer to the paragraph [0009] of this application).

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However, by the making method of claims 29 and 32 of this application, because the leads (2, 3) are fixed on the core (11), the problem (i) and (ii) can be solved at the same time. Therefore claims 29 and 32 of this application have outstanding effects and are nonobvious.

About the nonobvious of claims 12 and 21 relate to the cell

Further, the cell disclosed in claims 12 and 21 have the following outstanding effects. In Ishida et al, Romero, Ikeda et al, or Tamaki et al, the three main elements (electrode, lead, and core) of the cell are not connected as an integral, and the three main elements have different resonance frequencies due to the large mass difference between them. Accordingly, when the cell is under vibration test (About the test, vibration is applied to the cell from low frequency to high frequency slowly at x-axis, y-axis and z-axis respectively), for instance, if the electrode as one of the three main elements has strong resonance, the other elements such as the lead may not be in resonance, so that the connection of electrode and the lead may be broken.

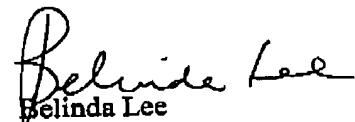
On the other hand, for the cell disclosed in claims 12 and 21 illustrated by fig 1 of this application and reference figure, because the three main elements (electrode, lead, and core) are connected as an integral at the very close position, the three main elements can be considered one rigid body, so that there is only one resonance frequency. Accordingly, the connection of the main elements is not easy to break. Therefore claims 12 and 21 of this application have outstanding effects and are nonobvious.

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CONCLUSION

For at least the foregoing reasons, it is believed that claims 12-14, 17, 19-22, 25, 27-36 are in proper condition for allowance and an action to such effect is earnestly solicited. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,


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